REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on July 8, 2003, and the references cited therewith.

No claims have been amended. Claims 1-24 are now pending in this application.

§103 Rejection of the Claims

Claims 1-4 and 9 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al. (U.S. Patent No. 5,550,373) in view of Tokuda et al. (U.S. Patent No. 5,144,397). This rejection is respectfully traversed.

Cole et al. describes a single detector, "which may be a single pixel or an array of pixels." Col. 2, lines 12-13. Some of the co-inventors of this patent recognized that a single detector might not be responsive to the entire filtered spectrum, and came up with the currently claimed invention. The Office Action cites Tokuda et al. as suggesting a solution to this problem. Such is simply not the case.

Tokuda et al., has an object of providing "a light responsive semiconductor device providing an output signal that changes dramatically at a particular wavelength of incident light." Co 2, lines 14-17, and FIG.s 11a and 11b. Such "drastic change" characteristics make it useful in optical multiplex communication systems where "wavelength critical optical detection is of high significance." See Col. 4, lines 58-66. Thus, Tokuda et al. does not suggest using multiple detectors in combination with a bandpass filter. Tokuda et al. describes independently detecting different wavelengths. The presently claimed structure detects high and low wavelengths passed by a bandpass filter. As seen in FIG.s 11 a and 11b of Tokuda et al.: "the changes in absorption characteristics as a function of wavelength...is very sharp. Therefore, even when the wavelengths λ_1 and λ_2 are very close, they can be selectively detected." Col. 8, lines 35-40. This does not suggest detecting high and low bandwidths passed by a bandpass filter.

The Office Action references FIG. 12 of Tokuda et al., and indicates that "It would have been obvious to use the Tokuda et al. detector in the Cole et al. device to improve the wavelength sensitivity." This reason fits in with Tokuda et al. description of FIG. 12: "... different wavelength signals can be independently detected." Co.. 8, lines 56-57. Wavelength sensitivity is important in Tokuda et al. as discussed with respect to FIG.s 11a and 11b. The present

invention solves the problem of detecting both high and low wavelengths passed by the bandpass filter, not in being more selective to different wavelengths. One would not be motivated to combine the teachings of Col et al. and Tokuda et al. Since the reason for the combination provided in the Office Action is not accurate, a prima facie case of obviousness has not been established, and the rejection should be withdrawn. Claims 2-9 depend from claim 1 and are believed patentable for at least the same reasons as claim 1.

Cole et al. is concerned with sensing light passed from a filter. Only the "portion of the light that is passed by the cavity is detected by an infrared microbolemeter or CCD array." Abstract. Thus, there is no suggestion in Cole et al. that multiple detectors for different wavelengths would be needed, since the different wavelengths are removed by the filter. Only the wavelength passed by the filter need be detected. Some embodiments of Tokuda et al. are directed at detecting different wavelengths. There is no filter in Tokuda et al. that screens out these different wavelengths. Thus, the stated reason for combining them is actually against the teaching of the references. They clearly are directed to different purposes, and there is no actual suggestion to combine them other than by using the current application impermissibly as a roadmap.

Claims 5-8 and 12 were rejected under 35 USC § 103(a) as being unpatentable over Cole in view of Tokuda et al. and further in view of Hier et al. (U.S. Patent No. 6,407,439) and Koslowski et al (U.S Patent No. 6,483,116). This rejection is respectfully traversed. Claims 5-8 depend from claim 1 and are believed allowable for at least the same reasons. Claim 12 contains the elements of claim 1, plus the in-band source, and is believed to distinguish the references in at least the same manner. Further, none of the references are cited as providing an in-band source than illuminates a sample. Since at least one of the elements are missing, and at least some of the references are not properly combinable, the rejection should be withdrawn.

Claims 10, 11, 13-17, 19, 23 and 24 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al. in view of Tokuda et al. and Yokoi (U.S. Patent No. 6,459,484). This rejection is respectfully traversed. Claim 10, dependent claims 11-23, and independent claim 24 each contain elements that are similar to claim 1, and are believed to be patentable over the references for at least the same reason. As indicated above, Cole et al. and Tokuda et al. are

not properly combinable. Further, Yokoi does not add any of the elements missing from claim 1. As such, the rejection should be withdrawn and the claims allowed.

Claims 20-22 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al. in view of Tokuda et al. and Yokoi and further in view of Hier et al and Koslowski et al. This rejection is respectfully traversed, as these claims depend from claim 10, which is believed allowable.

Allowable Subject Matter

Claim 18 was indicated to be allowable if rewritten to overcome the rejection(s) under 35 USC § 112, second paragraph, set forth in the Office Action and to include all limitations of the base claim and any intervening claims.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 8 day of September, 2003.

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